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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 18-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
2. Claims 18-21 provides for the use of the polymer, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 18-21 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 3-11, 13, 14, 16 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Ohta (US 5660626).

Ohta discloses cement dispersing agents. Said agents comprise the reaction of styrene-maleic anhydride copolymers, acrylic acid esters and the like (Column 2 Lines 1-9), or analog of unsaturated monocarboxylic acids, and polyethylene glycol monomethyl ether (Prep 4), as required by Claim 1. Salts of the analog may be used (Column 2 Line 7), as required by Claim 3. The PEG monomethyl ether has one methyl terminal group and meets the requirements of Claims 4 and 6. It is the Examiners position that the PEG monomethyl ether will inherently have the purity requirements of Claim 5 since Ohta would also be concerned with decreasing the amount of difunctional PEG in the system. The analog of monomer (a) comprises acrylic acid, as required by Claim 7. The PEG monomethyl ether in Prep 4 has a MW of 500 and meets the limitations of Claim 8. The reaction product has a MW of around 20000 (See table 1), meeting the requirements of Claim 9. Monomer b is an optional component and Ohta thusly meets the 100:0 A:B ratio of Claim 10. The polymer is dried, or in the solid state after MIBK is evaporated (see Prep 4) inherently forming a sheet of polymer on the

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surface of the vessel, as required by Claim 11. As there is no disclosure as to the necessity of keeping the polymer at a higher temperature the Examiner finds that the product will inherently cool to room temperature after the reaction is complete, as required by Claim 14. The polymers are used in aqueous solutions (see prep 5-8), further, Column 7 Lines 58-60 disclose using the solid polymer S02 (prep 4) in a solution, which must have come from dissolving the solid polymer in aqueous medium, as required by Claim 22.

2. Claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Wutz (US 5739212).

Wutz discloses water soluble graft polymers. Said polymers are the reaction of an ethylenically unsaturated mono or dicarboxylic acid with a polyalkylene oxide (abstract, composition (a)). The polyalkylene oxide may be monofunctional (see R1 and R3). The ethylenically unsaturated acid meets limitation (a) of Claim 1 and the polyalkylene oxide meets limitation (B) of Claim 1. The resulting polymer can be ground into a powder, or in solid form (Column 4 Line 54) meeting all the requirements of Claim 1. Regarding Claim 2, the unsaturated acid-capped polyalkylene oxide meets the limitations of monomer (c), the reaction further comprises ethylene glycol monomethyl ether, or polymer (b) (abstract, prep ex 1), and may further comprise another unsaturated monomer, or monomer (a) (Column 4 Lines 20-40), meeting all the limitations of Claim 2.

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The following disclosure is based on the rejection over Claim 1 ie, monomer (a) is the unsaturated diacid and polymer (b) is PEG, the product of which being the unsaturated acid capped PEG. The dicarboxylic anhydride as discussed in regards to Claim 1 meets the limitations of Claim 3. The polyalkylene oxide is as set forth above and meets the limitations of Claim 4. It is the Examiners position that the purity of polymer b would inherently lie within the ranges of Claim 5 since Wutz would want to limit the possibility of side reactions, as required by Claim 5. The polyakylene oxide may just be PEG, as required by Claim 6. Monomer (a) may be acrylic acid and the like (Column 4 Lines 35-37), as required by Claim 7. The MW of the polyalkylene oxide of Ex 1 is around 1400, meeting the requirements of Claim 8. It is the Examiners position that the reaction between the polyalkylene oxide and the maleic anhydride of Ex would produce a product whose MW would inherently lie within the broad range of 250-10000 since the reaction only comprises endcapping a 1400 MW polymer, as required by Claim 9. As monomer b is optional the composition as discussed above meets the 100:0 a:b ratio required by Claim 10. The polymer may be a powder, as set forth above, meeting the requirements of Claims 1 and 11. Regarding Claim 15, the additional acrylic acid monomer (Column 4 Lines 20-40) meets the unsaturated monomer requirement, the product of PEG and the anhydride (product (a) of abstract) meets the unsaturated anhydride analog and the monomethyl PEG meets the polymer B requirements of the Claim.

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. Claims 13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohta.

Ohta includes elements of the invention as discussed above. Ohta discloses the addition of setting retarders and accelerators in Column 2 Line 45. Ohta does not disclose the addition of the additives prior to cooling.

It is prima facie obvious to one of ordinary skill in the art at the time of the invention to change the sequence of adding ingredients, as required by the above Claims. See *In re Burhans* 69 USPQ 330 (CCPA 1946), selecting of any order of performing process steps is prima facie obvious in the absence of new or unexpected

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results and In re Gibson, 5 USPQ 230 (CCPA 1930), selection of any order of mixing ingredients is prima facie obvious.

4. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wutz.

Wutz includes elements of the invention as discussed above. Wutz discloses the addition of accelerators in Column 5 Line 5. Wutz does not disclose the addition of the additives prior to cooling.

It is prima facie obvious to one of ordinary skill in the art at the time of the invention to change the sequence of adding ingredients, as required by Claim 16. See In re Burhans 69 USPQ 330 (CCPA 1946), selecting of any order of performing process steps is prima facie obvious in the absence of new or unexpected results and In re Gibson, 5 USPQ 230 (CCPA 1930), selection of any order of mixing ingredients is prima facie obvious.

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wutz or Ohta in view of Berg (US 5861057) in view of Serafini (US 5824347).

Wutz and Ohta include elements of the invention as discussed above. Wutz and Ohta include the addition of additives to concrete but do not include the use of a concrete fluidizer.

Berg discloses the addition of fluidizers, accelerators and the like to concrete (Column 5 Line 2), Serafini discloses the addition of concrete fluidizers in order to achieve the desired level of slump.

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It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Wutz or Ohta the use of concrete fluidizers, as taught by Berg and Serafini, in order to control the slump of the concrete.

It is prima facie obvious to one of ordinary skill in the art at the time of the invention to change the sequence of adding ingredients, as required by Claim 12. See *In re Burhans* 69 USPQ 330 (CCPA 1946), selecting of any order of performing process steps is prima facie obvious in the absence of new or unexpected results and *In re Gibson*, 5 USPQ 230 (CCPA 1930), selection of any order of mixing ingredients is prima facie obvious.

6. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohta in view of Tsubakimoto (US 4870120).

Ohta includes elements as discussed above. Ohta discloses the use of accelerators in cement compositions but does not disclose what accelerators are used.

Tsubakimoto discloses cement compositions. Said compositions comprise water soluble accelerators such as sodium hydroxide in order to accelerate polymerization. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Ohta the use of water soluble accelerators, as taught by Tsubakimoto, in order to accelerate the rate of curing of the composition.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. WO 99/02466 is equivalent to US 5739212 (Wutz) and is thusly not used. WO 97/00898 is equivalent to US 5660626 and is thusly not used.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia M. Toscano whose telephone number is 571-272-2451. The examiner can normally be reached on Monday to Friday 8:30 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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AMT

A handwritten signature in black ink, appearing to read "Randy Gulakowski". The signature is fluid and cursive, with the first name "Randy" and last name "Gulakowski" clearly distinguishable.

RANDY GULAKOWSKI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700